

## **Claims**

What is claimed is:

1. A method of constructing a model representative of a resource for use in managing a service associated with the resource, comprising the steps of:

- 5 associating a resource abstract model with the resource;  
obtaining a set of resource metrics in accordance with the resource abstract model associated with the resource; and  
constructing a model representative of the resource based on at least a portion of the set of resource metrics obtained in accordance with the resource abstract model.

10 2. The method of claim 1, wherein the constructed model comprises a quantitative model.

3. The method of claim 1, wherein the resource abstract model is constructed by at least one individual with expertise associated with the resource.

15 4. The method of claim 1, further comprising the step of obtaining one or more service level metrics for use in constructing the model representative of the resource.

5. The method of claim 4, wherein the one or more service level metrics are obtainable from one or more service level agreements.

20 6. The method of claim 5, further comprising the step of obtaining a topology of one or more resources used to deliver one or more services associated with the one or more service level agreements, including the resource for which the model is being constructed, for use in constructing the model representative of the resource.

7. The method of claim 1, wherein the resource is an element of an autonomic computing environment.

8. The method of claim 1, wherein the constructed model is useable for at least one of: (i) reporting one or more service level metrics; (ii) automating service level compliance; (iii) permitting a service provider to manage one or more service on demand; and (iv) generating one or more notifications related to automated service level enforcement.

9. The method of claim 1, further comprising the step of checking the accuracy of the constructed model.

10. The method of claim 9, wherein the accuracy checking step comprises use of change point detection.

11. Apparatus for constructing a model representative of a resource for use in managing a service associated with the resource, comprising:

a memory; and

at least one processor coupled to the memory and operative to: (i) obtaining a set of resource metrics in accordance with a resource abstract model associated with the resource; and (ii) constructing a model representative of the resource based on at least a portion of the set of resource metrics obtained in accordance with the resource abstract model.

12. The apparatus of claim 11, wherein the constructed model comprises a quantitative model.

13. The apparatus of claim 11, wherein the at least one processor is further operative to obtain one or more service level metrics for use in constructing the model representative of the resource.

5 14. The apparatus of claim 13, wherein the one or more service level metrics are obtainable from one or more service level agreements.

10 15. The apparatus of claim 14, wherein the at least one processor is further operative to obtain a topology of one or more resources used to deliver one or more services associated with the one or more service level agreements, including the resource for which the model is being constructed, for use in constructing the model representative of the resource.

16. The apparatus of claim 11, wherein the resource is an element of an autonomic computing environment.

15 17. The apparatus of claim 11, wherein the constructed model is useable for at least one of: (i) reporting one or more service level metrics; (ii) automating service level compliance; (iii) permitting a service provider to manage one or more service on demand; and (iv) generating one or more notifications related to automated service level enforcement.

20 18. The apparatus of claim 11, wherein the at least one processor is further operative to check the accuracy of the constructed model.

19. The apparatus of claim 18, wherein the accuracy checking operation comprises use of change point detection.

20. An article of manufacture for constructing a model representative of a resource for use in managing a service associated with the resource, comprising a machine readable medium containing one or more programs which when executed  
5 implement the steps of:

obtaining a set of resource metrics in accordance with a resource abstract model associated with the resource; and

constructing a model representative of the resource based on at least a portion of the set of resource metrics obtained in accordance with the resource abstract model.

10 21. The article of claim 20, wherein the constructed model comprises a quantitative model.

22. The article of claim 20, further comprising the step of obtaining one or more service level metrics for use in constructing the model representative of the resource.

15 23. The article of claim 22, wherein the one or more service level metrics are obtainable from one or more service level agreements.

24. The article of claim 20, further comprising the step of obtaining a topology of one or more resources used to deliver one or more services associated with the one or more service level agreements, including the resource for which the model is being constructed, for use in constructing the model representative of the resource.

20 25. The article of claim 20, wherein the constructed model is useable for at least one of: (i) reporting one or more service level metrics; (ii) automating service level compliance; (iii) permitting a service provider to manage one or more service on demand;

and (iv) generating one or more notifications related to automated service level enforcement.

26. The article of claim 20, further comprising the step of checking the accuracy of the constructed model.

5           27. A method of providing resource management services, comprising the steps of:

          deploying one or more resource abstract models in association with one or more resources, the one or more resource abstract models being useable to obtain one or more sets of resource metrics;

10           based on at least a portion of the one or more sets of resource metrics obtained in accordance with the one or more resource abstract models, constructing one or more models representative of the one or more resources; and  
          using the one or more constructed models to manage the one or more resources.

15           28. The method of claim 27, further comprising the step of obtaining one or more service level metrics for use in constructing the one or more models representative of the one or more resources.

          29. The method of claim 28, wherein the one or more service level metrics are obtainable from one or more service level agreements.

20           30. The method of claim 27, further comprising the step of obtaining a topology of the one or more resources used to deliver one or more services associated with the one

or more service level agreements, for use in constructing the one or more models representative of the resource.

5           31. The method of claim 27, wherein the resource is an element of an autonomic computing environment.

10           32. The method of claim 27, wherein the one or more constructed models are useable for at least one of: (i) reporting one or more service level metrics; (ii) automating service level compliance; (iii) permitting a service provider to manage one or more service on demand; and (iv) generating one or more notifications related to automated service level enforcement.

          33. The method of claim 27, further comprising the step of checking the accuracy of the one or more constructed models.